

Remarks

Claims 7 to 11 are pending in this application, claim 7 is withdrawn, claims 8 and 9, both of which are independent, are amended to correct minor informalities. Claims 10 and 11 were added.

In paragraphs 1 and 2, The Office rejected claims 8 and 9 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,747,679 to Dietz et al (hereinafter "Dietz") in view of U.S. Patent 5,861,553 to Janetzke et al. (hereinafter "Janetzke").

In particular, the view was expressed that Dietz discloses a method for detecting combustion misfires similar to the presently claimed method.

The Office acknowledged that Dietz does not disclose engine load and/or the engine rpm as the operating parameter on which claimed aspects of the angle segments depend.

However, the view was expressed that Janetzke, in particular in column 5, lines 29 to 47, discloses a method for detecting combustion misfires comprising segment times which are dependent upon an operating parameter of the engine including engine load.

Thus, it was concluded that it would have been obvious to one skilled in the art at the time the invention was made to modify the teachings of Dietz according to Janetzke for the purpose of more reliably detecting misfires for critical operating ranges. Reference is made to column 2, lines 24 to 31, of Janetzke.

At column 3, lines 47 to 49, Dietz teach that the position, length and number of segments can be changed specifically to an

application. However, taken as a whole, Dietz does not reveal what kind of application that could be. Specifically, Dietz does not disclose or suggest that this application might be an operating parameter and certainly not that this operating parameter is the engine rpm and/or the engine load.

Janetzke discloses a method in which a quantity is formed from a subset of rough running values. This quantity, when combined with an offset, forms a reference value. A misfire is detected when the determined rough running values deviate from the reference value.

In column 5, lines 37 to 38, Janetzke discloses that "the offset . . . is determined by accessing a characteristic field."

In column 5, lines 45 to 47, Janetzke discloses that "the offset . . . can be stored . . . as a characteristic field."

Also in column 5, lines 42 to 45, Janetzke discloses that "the characteristic field access takes place in dependence upon operating parameters of the engine such as temperature T, load t1 and/or rpm (n)."

Thus, Janetzke discloses choosing an offset value from a characteristic field in dependence upon an operating parameter. Janetzke also discloses that the offset value takes part in the formation of a reference value, which in turn takes part in misfire detection. However, other uses of the offset values or the operating parameters are not disclosed or suggested. Accordingly, Janetzke does not disclose or suggest

"considering the position of angle segments relative to a reference point (TDC) of the movement of the piston

of the engine which is dependent upon at least one operating parameter of the engine wherein the one parameter(s) is the engine load and/or the engine rpm;" (claim 8, emphasis added)

"considering the position of angle segments . . . which is dependent upon at least . . . the engine load and/or the engine rpm;
considering an angle expansion of the angle segments;
causing the angle expansion of the angle segments to be dependent upon said at least an operating parameter of the engine" (claim 9, emphasis added)

as required by claims 8 and 9, respectively. Thus, while in the present invention, engine load and/or rpm influence the position of angle segments and, in certain embodiments, the angle expansion of the angle segments, Janetzke only discloses that engine load and/or rpm influences the offset value, which in turn takes part in more reliably determining a reference threshold value.

The above shows that there is no motivation or suggestion either in Dietz, Janetzke or in the general knowledge in the art to combine the teachings of Dietz and Janetzke to arrive at the claimed invention as required for a prima facie case of obviousness. The above also shows that there is no reasonable expectation of success. Accordingly, applicants submit that the claimed invention is patentably distinct over the cited prior art and that all claims presented should be in condition for allowance.

Reconsideration of the application is earnestly solicited.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Walter Ottesen", written in a cursive style.

Walter Ottesen
Reg. No. 25,544

Walter Ottesen
Patent Attorney
P.O. Box 4026
Gaithersburg, Maryland 20885-4026

Phone: (301) 869-8950

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